



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/668,331

09/24/2003

Yasuhiro Tokunaga

OKI.575

2305

20987

7590

09/16/2004

VOLENTINE FRANCOS, & WHITT PLLC  
ONE FREEDOM SQUARE  
11951 FREEDOM DRIVE SUITE 1260  
RESTON, VA 20190

EXAMINER

PRUCHNIC, STANLEY J

ART UNIT

PAPER NUMBER

2859

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/668,331	Applicant(s) TOKUNAGA, YASUHIRO	
	Examiner Stanley J. Pruchnic, Jr.	Art Unit 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/24/03(1SHEET)</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The reference listed in the information disclosure statement (IDS) or PTO-1449 submitted by Applicant on 24 September 2003 is acknowledged. The cited reference has been considered as indicated by the examiner's initials next to the reference considered.

However the foreign patent(s) and/or document(s) cited by applicant are considered only to the extent they could be understood from the abstract and drawings and Applicant's explanation of relevance in the Specification.

### ***Specification***

3. The disclosure is objected to because of the following informalities:
  - a. On Page 3, Line 13, "EN1" after "signal" should be deleted and replaced by --EN1-- in order to correct an obvious error, in order to more clearly describe the invention.
  - b. On Page 3, in the last paragraph, in Line 2, it appears that, after the phrase "pre-charges the node OUT1 with", the next occurrence of "L" should be deleted and replaced therefor by --H-- in order to clearly describe the invention.
  - c. On Page 3, in the last paragraph, in Line 3, it appears that, after the phrase "input signal EN1 is", the next occurrence of "H" should be deleted and replaced therefor by --L-- in order to clearly describe the invention (See Fig. 3).
  - d. On Page 4, in the first line, after "output node", "OUT" should be deleted and replaced therefor by --OUT1-- in order to clearly describe the invention.
  - e. On Page 5, in Line 22, "CPA" should be --CPU-- in order to clearly describe the invention.

Appropriate correction is required.

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. In Particular, please check that the description is consistent with the Figures, e.g., Fig. 4.

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --TEMPERATURE DETECTION FROM DIFFERENCES IN OFF LEAK CURRENTS OF NMOS AND PMOS TRANSISTORS ON CPU CHIP--.

### ***Claim Objections***

6. Claims 3 and 5 are objected to because of the following informalities:
- a. In Claim 3, in Line 6, the limitation "the transistor" lacks antecedent basis.
  - b. In Claim 5, in Line 16, perhaps delete the word --hkept- after the words "potential is" in order to correct a minor spelling error.
- Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by MATRANGA *et al.* (U. S. Pat. No. \*\*\*, hereinafter **MATRANGA**).

**MATRANGA** discloses semiconductor device 1 (Fig. 3, see below) provided with a temperature detection circuit 2 for measuring a temperature of a CPU (integrated microcontroller; Col. 3, Lines 20-49) which is provided in a chip same as a chip on which the CPU is mounted (Col. 3, Lines 24-28) as claimed by Applicant in Claim 1, and

[illegible]

### ***Allowable Subject Matter***

9. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).
10. Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

**MATRANGA** further discloses a first PMOS transistor T3 and a first NMOS transistor T2 connected in series between a power supply potential Vdd and a grounding potential and the live node is a junction between a drain of the first PMOS transistor T3 and a drain of the first NMOS transistor T2. **MATRANGA** further discloses a comparator 4, but there is no comparison of a potential level of the live node with a threshold value of a transistor.

Claim 3 would be allowable because the prior art of record fails to teach or fairly suggest a semiconductor device provided with a temperature detection circuit which includes a temperature detection part for increasing a potential of a live node connected to a stray capacitance by charging the stray capacitance of transistors with the off leak currents, and for detecting that a temperature of the CPU reaches a given temperature by comparing a potential level of the live node with a threshold value of the transistor, and a detection signal output part for outputting and holding a detection signal which is driven by a signal issued by the temperature detection part as defined in the claim, in combination with the other limitations, each arranged and functioning as recited in claim 3.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in a form PTO-892 and not mentioned above disclose related devices and methods.

- US 20040071026 A1 (Hidaka, Hideto)
- US 6630754 B1 (Pippin, Jack D.)
- US 6426671 B1 (Kono, Takashi)
- US 6157244 A (Lee, Thomas H. et al.)
- US 5961215 A (Lee, Thomas H. et al.)
- US 6104075 A (Karaki, Toshiro)
- US 4994688 A (Horiguchi, Masashi et al.)
- US 4300048 A (Barbier, Daniel et al.)

- US 4185253 A (Lade, Robert W. et al.)

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stanley J. Pruchnic, Jr., whose telephone number is **(571) 272-2248**. The examiner can normally be reached on weekdays (Monday through Friday) from 7:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F. F. Gutierrez can be reached at **(571) 272-2245**.

The **Official FAX** number for Technology Center 2800 is **(703) 872-9306** for **all official communications**.

Any inquiry of a general nature or relating to the status of this application or proceeding may be directed to the official USPTO website at **<http://www.uspto.gov/>** or you may call the **USPTO Call Center** at **800-786-9199** or 703-308-4357. The Technology Center 2800 Customer Service FAX phone number is (703) 872-9317.

The cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site ([www.uspto.gov/](http://www.uspto.gov/)), from the Office of Public Records and from commercial sources.

Private PAIR provides external customers Internet-based access to patent application status and history information as well as the ability to view the scanned images of each customer's own application file folder(s).

For inquiries relating to Patent e-business products and service applications, you may call the **Patent Electronic Business Center (EBC)** at **703-305-3028** or toll free at **866-217-9197** between the hours of **6 a.m. and midnight Monday through Friday EST**, or by e-mail at: **[ebc@uspto.gov](mailto:ebc@uspto.gov)**. Additional information is available on the Patent EBC Web site at: **<http://www.uspto.gov/ebc/index.html>**.



**DIEGO F. F. GUTIERREZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800**



**Stanley J. Pruchnic, Jr.**  
9/11/04